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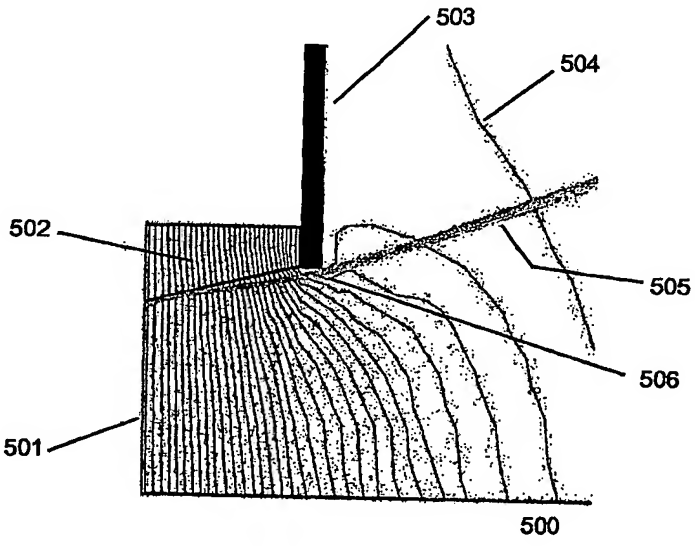
(54) Title: FIELD EMITTERS AND DEVICES



(57) Abstract: A broad area field electron emitter comprises a plurality of emitter cells of layered structure. Each cell comprises a hole having a layer of field electron emission material (501) at its base. A gate electrode (503) is spaced from the emitter layer (501) by a dielectric material (502) having a first region in contact with the emitter layer (501) and a second region in contact with the gate electrode (503). The cell diameter is greater at the level of the gate, (503) than at the level of the emitter layer (501), thus enabling electrons in electron beam (505) and emitted from sites adjacent to the side walls of the cell to avoid interception by the gate (503) at point (506). This reduces cell-wall charge between the first and second regions of dielectric material (502), and other means for achieving this are disclosed.

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